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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,684	04/30/2001	Masato Takahashi	206379US2PCT	9633

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EXAMINER	
KIM, PETER B	
ART UNIT	PAPER NUMBER

2851

DATE MAILED: 09/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Ab

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/830,684		TAKAHASHI, MASATO	
	<b>Examiner</b>		<b>Art Unit</b>	
	Peter B Kim		2851	

-- *Th MAILING DATE of this communication app ars on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 28-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 46-52 is/are allowed.
- 6) ☒ Claim(s) 28,29,32-45,53 and 54 is/are rejected.
- 7) ☒ Claim(s) 30 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: On page 1, lines 24, "retile" seems to be a typo. On page 66, lines 3, "Fig." Is not followed by a number indicating the figure. In Fig. 11, reference number 14 is shown, however the description on page 81 seems to use 14' to indicate the same structure.

Appropriate correction is required.

### *Claim Objections*

2. Claim 28 is objected to because of the following informalities:  
"a stage diving" seems to be a typo. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 36-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

"[A] second stage that holds the sample and can be relatively moved to the first stage" seems to suggest that the second stage is moved from a remote location to the first stage when the written disclosure seems to suggest that relative to the first stage, the second stage is moved.

The remaining claims, not specifically mentioned, are rejected for incorporating the defects from the base claim by dependency.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 28, 29, 32-36, 42-45, 53 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Osanai (5,610,686).

Osanai discloses in Figures 1, 4 and 5 a stage unit comprising a sample stage (5) that holds a sample, a stage driving mechanism (24, 23) that drives the sample stage in at least one direction; a first transmitting member (8) to which at least one part of the stage driving mechanism with a stator and a mover that is driving together by an electro-magnetic interaction and is connected by the stator arranged on the first transmitting member (col. 4, lines 26-30); and a first damping member (61, 13, 14, 12, 11) that is arranged on the first transmitting member and damps a vibration of the first transmitting member. Osanai also discloses a damping member that is an electro-mechanical transducer that generates a mechanical strain by applying an electric energy (col. 6, lines 15-25); and the stage unit further comprises a controller (53) that controls the damper in accordance with a reaction force caused by driving the sample stage (col. 6, lines 26-42). The controller controls the dampers based on an instructing value of a drive force of the sample stage and also feed-forward controls a voltage applied to the electro mechanical transducer so that the transducer generates a deflection deformation to cancel a deformation, which is caused in the first transmitting

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member by a reaction force, in the first transmitting member (col. 6, lines 43-61).

Osanai also discloses a first and a second stage (6, 5). Osanai also discloses in Figure 1, an exposure apparatus and method and a device manufactured with the method for comprising a mask stage, and a substrate stage, a projection optical system (3), a holder (4) which holds the projection optical system and is independent of the first transmitting member with respect the vibration, and a controller (53).

***Allowable Subject Matter***

7. Claims 46-52 are allowed.

8. Claims 30 and 31 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 37-41 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

None of the prior art of record teaches or discloses an exposure apparatus with a stage base that movable supports a stage, a counter stage that moves in a direction opposite to the stage; a first supporting frame arranged independently of the stage base and movably supporting the counter stage; and a damping member that is arranged on the first supporting frame and damps a vibration of the first supporting frame.

None of the prior art of record teaches or discloses a stage unit comprising a first transmitting member to which at least one part of the stage driving mechanism is connected and a reaction force caused by driving the sample stage is transmitted;

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where the first damping member is arranged to a position where a maximum strain of the first transmitting member is caused; and the sample stage comprises and first and second stage with a second transmitting member in which a reaction force caused by driving the second stage is transmitted via the first stage, a second damping member that is arranged on the second transmitting member.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Kim whose telephone number is (703) 305-0105. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays during the same hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams, can be reached on (703) 308-2847. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Peter B. Kim  
Patent Examiner  
9/13/02